M/057/0002
cc: Lynn
Wayne
Tom
Task! 4050

LARGE MINE PERMIT CONSOLIDATION

GREAT SALT LAKE MINERALS CORPORATION

GSL MINE
M/057/002

Box Elder and Weber Counties

March 28, 2011

Submitted By:
North American Exploration, Inc.
447 N 300 W, Suite #3
Kaysville, UT 84037
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RECEIVED
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DIV. OF OIL, GAS & MINING

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HISTORY

~~The State of Utah minerals leases for the 89,000 acres, the present site of the~~ Great Salt Lake Minerals Corporation (GSLM&CC) operates solar evaporation ponds, processing and support facilities in 89,000 acres leased from the state of Utah within and adjacent to the Great Salt Lake. The leases were originally held by Dix R. Turnbow, N.G. Morgan Sr., Virgil V. Peterson, and Morgan Peterson Enterprises, Inc. These rights were transferred to Lithium Corporation, a predecessor of GSLM&CC through an agreement dated October 1, 1963. Initially the Lithium Corporation operated a solar evaporation complex to extract, via solar evaporation, minerals from the brines of the Great Salt Lake. The complex consisted of a brine supply system and initially 17,000 acres of ponds and processing and support facilities. The solar ponds are located on a portion of the 89,000 acres of land leased from the State of Utah under mineral lease agreements numbers ML 19024-SV1, 19059-SV2, 21708-SV3, 22782-SV4, 23023-SV5, 24189-SV6, 24631-SV7, 25384-SV8, 25859-SV9, and R-W 1073.

These rights were acquired by GSLM&CC, a subsidiary of Gulf Resources and Chemicals Corporation. And in 1977 GSLM&CC applied for a large mine permit for the site under the Utah Mined Land Reclamation Act (the year the Act was enacted).

On March 4, 1983, prior to permit approval, GSLM&CC modified their application to request variances from the following M-Rules; M-10(1)-Demolition, M-10(3) Reclamation, and M-10(4) Revegetation Standards. Also included with this correspondence, was a revision of the initial application to expand their operation to 34,000 acres. The tentative approval for the Little Mountain Mine permit application was issued by the Division of Oil, Gas and Mining on March 15, 1983, pending DOGM Board approval. On March 24, 1983 the Board of Oil, Gas and Mining issued tentative approval pending receipt of GSLM&CC's plan to sample soils in borrow pits and a revegetation plan. This information was submitted to the Division on April 14, 1983. The approved permit application indicated a property position of 89,000 acres leased from the State of Utah and 4,000 acres of fee land. This permit approval allowed for 34,000 acres to be covered with ponds and 1,000 acres of plant site and other auxiliary facilities.
(Documentation included in Appendix 1)

The processing plant constructed on Little Mountain land encompasses ~500 acres as a part of an industrial site. The area was leveled and graded before construction of the buildings and conveying systems. Excess materials excavated from the site were used for building dikes. The attached drawing SK61077 shows the solar evaporation pond layout and the properties either owned or leased by GSLM&CC. These lands are leased from the Division of Forestry, Fire & State Land (FFSL) and State Institutional Lands Administration (SITLA).

The initial mining sequence consisted of pumping brine from the North Arm of the Great Salt Lake. The brine was pumped from the Great Salt Lake under water rights granted by the State. The brines flow by gravity to the east side of Promontory mountains

and are distributed through a series of solar ponds (refer to GSL drawing SK 61007). As evaporation takes place, potassium, sodium and magnesium salts are deposited. Excess, unused salts deposited in the pond bottoms are redissolved with Bear River water and flushed back into the Great Salt Lake.

At the end of the evaporation season, the ponds are drained and the products are harvested and fed to the production plant. The following products are produced and marketed:

Sulfate of Potash	K2SO4
Sodium Sulfate	Na2SO4
Sodium Chloride	Na2Cl2
Magnesium Chloride	MgCl2

The extraction of minerals from the brine on GSL's leased lands is covered by a royalty agreement with the State of Utah. The terms of the mineral lease are connected to the duration of the royalty agreement which lasts as long as minerals are produced and sold from the land and a minimum royalty is paid to the State.

The total mineral reserves in the Great Salt Lake are sufficient to provide raw material for GSL's facilities, including future planned expansions, and other existing producers on the lake for about 200 years. Future products for the minerals extracted from the lake are possible and planned. All unused minerals in the pond system or plant effluent are returned to the Lake as provided in the Royalty Agreement.

On July 3, 1991 GSLM&CC filed a NOI to Amend Mining Operations. This amendment proposed to expand the present solar pond system. The expansion included (1) dredging an underwater channel (Behren's trench) approximately 20 miles long in the north arm of the Great Salt Lake from the west side of Promontory Point to Lakeside, Utah. State lease ESMT 95, easement for Behren's trench, was acquired at this time for the trench alignment; (2) constructing an 8.5 mile dike from Strong's Knob near Lakeside to Finger Point Mountain to form solar ponds; (3) constructing an access road approximately 3 miles long from Lakeside railroad right of way north to Strong's Knob, ESMT 96 was issued for this activity: and (4) constructing a pumping stations on the new dike for pumping brine in and out of the proposed solar pond. The expansion was covered under ML 19024-SV, and an additional mineral lease (ML 44607-SV) which was acquired from the State of Utah on June 17, 1991 to provide lease rights for the additional impacted area. Borrow material for these activities would be obtained from a lease located in the North ½ of the SW ¼ and the NW ¼ of Sec 9, T6N-R9W, SLB&M (ML 50730-MP). On August 16, 1991 GSLM&CC received partial approval from DOGM for this plan and on August 29, 1991 received conditional approval. This approval was conditioned on clarification of GSLM&CC's operation practices, reclamation plans, impact assessment, variances, and submission of maps clearly locating the proposed disturbance at Strong's Knob borrow area. On September 16, 1991 additional information in the form of maps & drawings, operation practices and

reclamation plan was submitted to DOGM by GLSM&CC. This letter documented the variance approval that the Strong's Knob borrow pit would not be recontoured, topsoiled or reseeded.

(Documentation included in Appendix 2)

In 1998 the Harris Chemical Group (dba as GSLM&CC) merged with IMC Global, Inc., and the name of the company was changed to IMC Kalium Ogden Corporation. In 2001 IMC Global, Inc. then sold its salt holdings including the Ogden operation to Apollo Management, LP. This business entity is now known as Compass Minerals Group. This group in turn renamed the operation Great Salt Lake Minerals Corporation (GSL). In 2002 GSL requested that the permit name be changed from Little Mountain to Great Salt Lake Minerals Corporation (GSL) to allow for a more recognizable name in the market place.

On February 9, 1998 GSL filed a NOI to Revise Mining Operations at the site. This amendment was filed to allow GSL to construct a dredged intake canal on the west side of the Lake feeding the #1 west pond pump stations. This canal would be 10 to 30 feet wide and 18,750 feet long. Also included in the application was GSL's intention to construct a barrier dike which is about 17 miles long and would be located north of Strong's Point. The purpose of the dike would be to prevent surface runoff from entering the evaporation ponds.

(Documentation included in Appendix 3).

On May 14, 2004 GSL filed a NOI to Revise Mining Operations for activity planned on the west side of the lake near Strong's Point. The work involved the establishment for the relocation of several pump stations, a living quarters, and dike through the southeast portion of a permitted facility already established there (112 pond). This dike would essentially divide pond 112 and establish ponds 112 &113.

(Documentation included in Appendix 4).

On September 16, 2004 GSL applied to DOGM to add solar pond 1B to their permitted operations area. This pond was located on the east side of Promontory Point and due east of Pond 1A and of the Bear River Channel. The pond construction was located on the lake bed therefore will have no reclamation liability except the allowance for dike breaching upon closure. (On October 8, 2004 DOGM gave formal approval of this permit revision.)

(Documentation included in Appendix 5).

At the present time the solar pond complex consists of: pumping stations, pipelines, flumes, timber bridges, canals, the Behren's trench (~21 miles), the intake canal (~3.5 miles), and diked ponds to transfer and process brines. The ponds area contained in the 1977 permit application encompassed 17,000 acres which has since been expanded to ~47,215 acres ~~to date~~. The pond dikes are constructed with borrowed materials from fee-owned and leased borrow pits, ~~Lease ML50730-MP, and~~ imported gravel materials, and a thin cutoff wall constructed of cement and bentonite within the footprint of the outer dikes in Bear River Bay*. The roads and dikes are

maintained with borrowed material from one of several borrow pits located on Strong's Point, Promontory Point and Little Mountain. At this time several hundred miles of dikes exist at the site.

At the present time GSL operates under the following Division of Forestry, Fire and State Lands (FFSL) and State Institution Trust Lands Administration (SITLA) solar pond leases:

Great Salt Lake Minerals Leases/Easements

Solar Pond Leases

Regulatory Office	Lease ID	Location	County
FFSL	ML 19024-SV1	East Ponds	Box Elder
FFSL	ML 19059-SV2	East Ponds	Box Elder
FFSL	ML 21708-SV3	East Ponds	Box Elder
FFSL	ML 22782-SV4	East Ponds	Box Elder
FFSL	ML 23023-SV5	Promontory (PS 1)	Box Elder
FFSL	ML 24631-SV6	East Ponds	Box Elder
FFSL	ML 43388-SV7	Promontory (PS 1)	Box Elder
FFSL	ML 44607-SV8	West Ponds	Box Elder
FFSL	ML 25859-SV9	East Ponds	Box Elder
FFSL	20000107	West Exp (D.Island)	Box Elder
SITLA	SULA 1186	West of Pond 114	Box Elder
FFSL	20000115	West Exp (North)	Box Elder

Non-Solar Leases/Easements

Regulatory Office	Lease ID	Location	County
FFSL			ESMT 95
FFSL	SOV-0002-400	PS 113 Inlet Canal	Box Elder
SITLA	ML 50730 MP	Strong's Knob	Box Elder
SITLA	ESMT 96	S.Knob Access Road	Box Elder
SITLA	ESMT 143	PS 112 Flush Line	Box Elder

Behren's Trench | Box Elder

Inactive Leases/Easements

Regulatory Office	Lease ID	Location	County
FFSL			ML 24189
FFSL	ESMT 96	S.Knob Access Road	Box Elder
FFSL	ESMT 97	Willard Canal	Weber

Promontory (West | Box Elder

The existing terrain in the solar ponds was not disturbed with exception of borrow ditches adjacent to the dikes. Approximately 95 percent of the area covered by ponds was undisturbed during the construction of the ponds. Also before construction of the dikes, the pond areas were mud flats with essentially no vegetation present. Depending on the level of the lake, more or less of these ponds areas was inundated by the lake. The minerals precipitated on the mud flat during evaporation will be redissolved with water to expose the undisturbed pond floor upon closure. This is done routinely to dispose of large volumes of salt precipitated in the ponds which cannot be sold economically as required under the lease agreement.

Upon closure the lease agreement with the State of Utah provides that the lessee will remove all personal property, equipment, machinery, buildings and tools from the land. A total of 20 pump stations associated with the west ponds would be removed, the West Desert pond main dike will be breached every mile and the West Desert access road crossing 1¼ miles of State lease will be breached every ½ mile. All borrow pits would be regraded to 45 degree slopes, if necessary, and those portions containing sufficient growth medium would be revegetated.

The Weber County Commission has deemed that the process plant is situated within an existing industrial park and therefore could have a post-mine use for that purpose. Therefore the plant site does not reflect a liability and is not included in the reclamation bond calculations. A total of six borrow pits totaling 185.8 acres have been used during the life of this operation. Upon closure some portions of these areas will be regraded, if necessary, and revegetated, (where sufficient growth medium exists, no soils will be imported). The Bear River pond dikes may be left in place if the Utah Wildlife Management Group should decide to utilize these ponds as wildlife habitat. If this Group should decide not to accept these areas then the dikes will receive the same approved reclamation treatment as the rest of the site.

**As discussed in the October 2010 meeting between DOGM and Great Salt Lake Minerals Corporation.*

I. Rule R647-4-104 - Operator(s), Surface and Mineral Owners

The Permittee / Operator must provide the name, address and telephone number of the individual or company who will be responsible for the proposed operation. **Business entities listed as the Permittee / Operator, must include names and titles of the corporate officers on a separate attachment.**

1. **Mine Name**: ~~Great Salt Lake Minerals Corporation~~ GSL Mine

2. Legal name of entity (or individual) for whom the permit is being requested:
Great Salt Lake Minerals Corporation
Mailing Address: 765 North 10500 West
City, State, Zip: Ogden, Utah 84404
Phone: (801) 731-3100 Fax: (801) 731-4881
E-mail Address:

Type of Business: Corporation (X) LLC ( ) Sole Proprietorship (dba) ( )
Partnership ( ) General_____ or _____limited
Or:
Individual ( )

Entity must be registered (and maintain registration) with the State of Utah, Division of Corporations (DOC) www.commerce.utah.gov.
Are you currently registered to do business in the State of Utah? Yes X No ____
Entity # 601787-0143
If no, contact www.commerce.utah.gov to renew or apply.
Local Business License # 111 (if required)
Issued by: County WEBER or City _____

Registered Utah Agent (as identified with the Utah Department of Commerce) *(if individual leave blank)*:
Name: National Registered Agents, Inc Title: Agent
Address: 3622 West Bay Circle
City, State, Zip: Lehi, Utah 84043
Phone: (801) 732-3327 Fax: (801) 731-4881
E-mail Address: _____

3. **Permanent Address**: Great Salt Lake Minerals Corporation
765 North 10500 West
Ogden, UT 84404
Phone: (801) 732-3327 Fax: (801) 731-4881

4. **Contact Person(s)** *Please provide as many contacts as necessary.*

Name: Mark Reynolds Title: Raw Materials Development Manager
Address: 765 North 10500 West
City, State, Zip: Ogden, Utah 84404
Phone: (801) 732-3327 Fax: (801) 731-4881
Emergency, Weekend, or Holiday Phone:
E-mail Address: reynoldsm@compassminerals.com

Contact person to be notified for: permitting (X) surety (X) Notices (X) (please check all that apply)

5. **Location of Operation**:

Mineral Lease	Division	Section	Township	Range
ML19024	All	7	6N	4W
ML19024	W1/2	8	6N	4W
ML19024	W1/2	17	6N	4W
ML19024	?	18	6N	4W
ML19024	SE1/4, S1/2 S1/2 SW1/4	1	6N	5W
ML19024	S1/2 S1/2 SE1/4	2	6N	5W
ML19024	Part	10	6N	5W
ML19024	Part	11	6N	5W
ML19024	W1/2	12	6N	5W
ML19024	Part	15	6N	5W
ML19059	Part	22	6N	5W
ML19059	All	23	6N	5W
ML19059	All	24	6N	5W
ML19059	N1/2 of N1/2	26	6N	5W
ML19059	Part	27	6N	5W
ML19059	Part	28	6N	5W
ML22782	All	25	7N	4W
ML22782	All	26	7N	4W
ML22782	All	27	7N	4W
ML22782	All	28	7N	4W
ML22782	All	29	7N	4W
ML22782	All	30	7N	4W
ML22782	All	31	7N	4W
ML22782	All	32	7N	4W
ML22782	All	33	7N	4W
ML22782	All	34	7N	4W
ML22782	All	35	7N	4W
ML22782	All	36	7N	4W
ML23023	Part	3	6N	6W
ML23023	All	4	6N	6W
ML23023	All	5	6N	6W
ML23023	All	8	6N	6W
ML23023	All	9	6N	6W
ML23023	Part	10	6N	6W
ML23023	Part	11	6N	6W
ML23023	Part	14	6N	6W

ML23023	All	15	6N	6W
ML23023	All	16	6N	6W
ML23023	All	17	6N	6W
ML23023	All	20	6N	6W
ML23023	All	21	6N	6W
ML23023	All	22	6N	6W
ML23023	Part	23	6N	6W
ML23023	Part	25	6N	6W
ML23023	Part	26	6N	6W
ML23023	Part	27	6N	6W
ML23023	All	28	6N	6W
ML23023	All	29	6N	6W
ML23023	N1/2, N1/2 of S1/2	30	6N	6W
ML23023	All	32	6N	6W
ML23023	All	33	6N	6W
ML23023	All	34	6N	6W
ML23023	All	35	6N	6W
ML23023	Part	36	6N	6W
ML24631	All	19	7N	4W
ML24631	All	20	7N	4W
ML24631	All	21	7N	4W
ML25859	Part	5	6N	3W
ML25859	Part	6	6N	3W
ML25859	Part	20	7N	3W
ML25859	Part	29	7N	3W
ML43388	Part	23	6N	6W
ML43388	Part	25	6N	6W
ML43388	Part	26	6N	6W
ML43388	Part	27	6N	6W
ML44607	All	4	6N	9W
ML44607	All	5	6N	9W
ML44607	All	6	6N	9W
ML44607	All	7	6N	9W
ML44607	All	8	6N	9W
ML44607	All	9	6N	9W
ML44607	All	1	6N	10W
ML44607	All	2	6N	10W
ML44607	All	3	6N	10W
ML44607	All	4	6N	10W
ML44607	All	5	6N	10W
ML44607	All	6	6N	10W
ML44607	Part	7	6N	10W
ML44607	Part	8	6N	10W
ML44607	All	9	6N	10W

ML44607	All	10	6N	10W
ML44607	All	11	6N	10W
ML44607	All	12	6N	10W
ML44607	All	13	6N	10W
ML44607	All	14	6N	10W
ML44607	All	15	6N	10W
ML44607	All	16	6N	10W
ML44607	Part	17	6N	10W
ML44607	All	1	6N	11W
ML44607	All	2	6N	11W
ML44607	Part	3	6N	11W
ML44607	Part	11	6N	11W
ML44607	Part	12	6N	11W
ML44607	All	31	7N	9W
ML44607	Part	6	7N	10W
ML44607	Part	7	7N	10W
ML44607	All	15	7N	10W
ML44607	All	16	7N	10W
ML44607	All	17	7N	10W
ML44607	All	18	7N	10W
ML44607	All	19	7N	10W
ML44607	All	20	7N	10W
ML44607	All	21	7N	10W
ML44607	All	22	7N	10W
ML44607	All	26	7N	10W
ML44607	All	27	7N	10W
ML44607	All	28	7N	10W
ML44607	All	29	7N	10W
ML44607	All	30	7N	10W
ML44607	All	31	7N	10W
ML44607	All	32	7N	10W
ML44607	All	33	7N	10W
ML44607	All	34	7N	10W
ML44607	All	35	7N	10W
ML44607	All	36	7N	10W
ML44607	Part	1	7N	11W
ML44607	Part	11	7N	11W
ML44607	Part	12	7N	11W
ML44607	All	13	7N	11W
ML44607	Part	14	7N	11W
ML44607	Part	15	7N	11W
ML44607	Part	22	7N	11W
ML44607	All	23	7N	11W
ML44607	All	24	7N	11W
ML44607	All	25	7N	11W
ML44607	All	26	7N	11W
ML44607	Part	27	7N	11W
ML44607	Part	34	7N	11W
ML44607	All	35	7N	11W

ML44607	All	36	7N	11W
ML44607	Part	31	8N	10W
ML 200 00107	Part	19	7N	9W
ML 200 00107	Part	29		
ML 200 00107	Part	30		
ML 200 00107	Part	32		
ML 200 00107	Part	2	7N	10W
ML 200 00107	Part	3		
ML 200 00107	Part	4		
ML 200 00107	Part	5		
ML 200 00107	Part	8		
ML 200 00107	Part	9		
ML 200 00107	Part	10		
ML 200 00107	Part	11		
ML 200 00107	Part	12		
ML 200 00107	Part	13		
ML 200 00107	Part	14		
ML 200 00107	Part	23		
ML 200 00107	Part	24		
ML 200 00107	Part	25		
ML 200 00107	Part	7	8N	10W
ML 200 00107	Part	8		
ML 200 00107	Part	9		
ML 200 00107	Part	10		
ML 200 00107	Part	15		
ML 200 00107	Part	16		
ML 200 00107	Part	17		
ML 200 00107	Part	18		
ML 200 00107	Part	19		
ML 200 00107	Part	20		
ML 200 00107	Part	21		
ML 200 00107	Part	22		
ML 200 00107	Part	26		
ML 200 00107	Part	27		
ML 200 00107	Part	28		
ML 200 00107	Part	29		
ML 200 00107	Part	30		
ML 200 00107	Part	32		
ML 200 00107	Part	33		
ML 200 00107	Part	34		
ML 200 00107	Part	35		
ML 200 00107	All	12	8N	11W
ML 200 00107	Part	13		
ML21708	NE1/4	1	6N	5W
SUA 1186	All	2	7N	11W
SUA 1186	E1/2	6	37 S.	24 E

SUA 1186	All	36	8N	11W
ML50730	Part	9	6N	9W
ML51502	S1/2, S1/2 N1/2	29	6N	9W
ML51502	SE1/4, S1/2 NE1/4	30	6N	9W
ML51502	N1/2	32	6N	9W

The names of the surface and mineral owners for any areas which are to be impacted by mining must be provided to the Division. This list should include all private, state and federal ownership and the owners of lands immediately adjacent to the project areas.

6. **Ownership of the land surface** (circle all that apply):
(X)Private (Fee), Public Domain (BLM), National Forest (USFS), (X) State of Utah (SITLA) or other: Forestry, Fire, & State Lands

Name: State of Utah (SITLA) Address: 675 E. 500 S. Salt Lake City, Utah 84102
Name: Great Salt Lake Minerals Address: 765 North 10500 West Ogden, Utah 84404
Name: Forestry, Fire & State Lands Address: 1594 W. North Temple, Suite 3520
Salt Lake City, Utah 84114

Owner(s) of record of the minerals to be mined (circle all that apply):
Private (Fee), Public Domain (BLM), National Forest (USFS), (X) State of Utah (SITLA), (FFSL) or other:

Name: State of Utah (SITLA) Address: 675 E 500 S Salt Lake City, Utah 84102
Name: Forestry, Fire & State Lands Address: 1594 W. North Temple, Suite 3520
Salt Lake City, Utah 84114

8.
Utah State Lease Number(s): ML 19024-SV, 19059-SV, 21708-SV, 22782-SV, 23023-SV, 24631-SV, 25859-SV, 43388-SV, 44607-SV, 20000107, SULA 1186, ESMT 95, SOV-0002-400, ML 50730-MP, ESMT 96, and ESMT 143

Name of Lessee(s): Compass Minerals Group dba Great Salt Lake Minerals Corp.

9. **Adjacent land owners:**

Name: BLM Address: 440 W. 200S. Suite 500
Salt Lake City, Utah 84101
Name: Utah Sovereign Lands Address: 1594 W. North Temple Suite 3520
Salt Lake City, Utah 84114
Name: SITLA Address: 675 East 500 South Suite 500
Salt Lake City, Utah 84102
Name: Dee's Inc. Address: 777 E. 2100 S. Salt Lake City, Utah

10. **Have the land, mineral and adjacent land owners been notified in writing?**

Yes __X__ No _____

If no, why not?

_____

11. **Does the Permittee / Operator have legal right to enter and conduct mining operations on the land covered by this notice?** Yes __X__ No _____.

II. Rule R647-4-105 - Maps, Drawings & Photographs

105.1 - Base Map

A complete and correct topographic base map (or maps) with appropriate contour intervals must be submitted with this notice showing all of the items on the following checklist. The scale should be approximately 1 inch = 2,000 feet (preferably a USGS 7.5 minute series or equivalent topographic map where available). The map(s) must show the location of lands to be affected in sufficient detail to allow measurement of the proposed area of surface disturbance.

Base Map Checklist

Please check off each section to verify these features are included on the map(s) or explain why it is not applicable. Please add the map identification name or number which shows these features.

Check			Map ID
			Site Map
X	(a)	Property boundaries of surface ownership of all lands which are to be affected by the mining operations;	800-11-05-027 Pondmaster (2)
X	(b)	Perennial, intermittent, or ephemeral streams, springs and other bodies of water; roads, buildings, landing strips, electrical transmission lines, water wells, oil and gas pipelines, existing wells or boreholes, or other existing surface or subsurface facilities within 500 feet of the proposed mining operations;	100-11-5-88
X	(c)	Proposed route of access to the mining operations from nearest publicly maintained highway (Map scale appropriate to show access);	800-11-05-027
____	(d)	Known areas which have been previously impacted by mining or exploration activities within the proposed land affected;	SK-61077 820-01-5-008
X	(e)	Areas proposed to be disturbed or reclaimed over the life of the project or other suitable time period.	800-11-05-019 800-11-03-020

105.2 - Surface Facilities Map

Surface Facilities Map Checklist

Surface facilities maps should be provided at a scale of not less than 1" = 500'.

Please check off each section to verify these features are included on the map(s) or explain why it is not applicable. Please add the map identification name or number which shows these features.

Check			Map ID
X	(a)	Proposed surface facilities, including but not limited to: buildings, stationary mining/processing equipment, roads, utilities, power lines, proposed drainage control structures, and the location of topsoil storage areas, overburden/waste dumps, tailings or processed waste facilities, disposal areas for overburden, solid and liquid wastes, and wastewater discharge treatment and containment facilities;	00-50-126 800-11-5-019 800-06-5-009
X	(b)	A border clearly outlining the extent of the surface area proposed to be affected by mining operations, and the number of acres proposed to be affected;	Site Map Pondmaster (2)
_____	(c)	The location of known test borings, pits, or core holes.	_____

105.3 - Additional Maps

Reclamation Treatments Map Checklist

Please check off each section to verity these features are included on the map(s) or explain why it is not applicable. Please add the map identification name or number which shows these features.

Check			Map ID
_____	(a)	Areas of the site to receive various reclamation treatments shaded, cross hatched or color coded to identify which reclamation treatments will be applied. Areas would include: buildings, stationary mining/processing equipment, roads, utilities, proposed drainage improvements or reconstruction, and sediment control structures, topsoil storage areas, waste dumps, tailings or processed waste facilities, disposal areas for overburden, solid and liquid wastes, ponds, and wastewater discharge, treatment and containment facilities. Reclamation treatments may include	

ripping, regrading, replacing soil, fertilizing, mulching, broadcast seeding, drill seeding, and hydroseeding: _____

_____ (b) A border clearly outlining the extent of the area to be reclaimed after mining, the number of acres disturbed, and the number of acres proposed for reclamation: _____

Pondmaster (2)

X (c) Areas disturbed by this operation which are included in a request for a variance from the reclamation standards: 101-11-05-002 101-11-05-039

X (d) Highwalls which are proposed to remain steeper than 45 degrees and slopes which are proposed to remain steeper than 3 horizontal: 1 vertical. 101-01-05-036

Note: Areas included in sections c & d will need to be referenced in the variance request section. Please shade or color code these areas on this map.

Additional maps and cross sections may be required in accordance with Rule R647-4-105.3. Design drawings and typical cross-sections for each tailings pond, sediment pond, or other major drainage control structures must also be included.

III. Rule R647-4-106 - Operation Plan

106.1 - Mineral(s) to be Mined: Sulfate of Potash, Sodium Sulfate, Sodium Chloride, Magnesium Chloride .

106.2 - Type of Operation Conducted:

At the present time GSL operates under the following Division of Forestry, Fire and State Lands (FFSL) and State Institution Trust Lands Administration (SITLA) solar pond leases.

The existing terrain in the solar ponds was not disturbed with exception of borrow ditches adjacent to the dikes. Approximately 95 per cent of the area covered by ponds was undisturbed during the construction of the ponds. Also before construction of the dikes, the pond areas were mud flats with essentially no vegetation present. Depending on the level of the lake, more or less of these ponds areas was inundated by the lake. The minerals precipitated on the mud flat during evaporation can be redissolved with water to expose the undisturbed pond floor upon closure. This is done routinely to dispose of large volumes of salt precipitated in the ponds which cannot be sold economically as required under the lease agreement.

Upon closure the lease agreement with the State of Utah provides that the lessee will remove all personal property, equipment, machinery, buildings and tools from the land. A total of 20 pump stations would be removed, the West Desert pond main dike would be breached every mile and the West Desert access road crossing 1¼ miles of State lease would be breached every ½ mile. All borrow pit would be regraded to 45 degree slopes, if necessary, and those portions containing sufficient growth medium would be revegetated.

The Weber County Commission has deemed that the process plant is situated within an existing industrial park and therefore could have a post-mine use for that purpose. Therefore the plant site does not reflect a liability and is not included in the reclamation bond calculations. A total of six borrow pits totaling 185.8 acres have been used during the life of this operation. Upon closure some portions of these areas will be regraded, as necessary, and revegetated (where sufficient growth medium exists, no soils will be imported). The Bear River pond dikes may be left in place if the Utah Division of Wildlife Resources ~~Wildlife Management Group~~ should decide to utilize these ponds as wildlife habitat. If this Group should decide not to accept these areas, then the dikes will receive the same approved reclamation treatment as the rest of the site.

The extraction of minerals from the brine on GSL's leased lands is covered by a royalty agreement with the State of Utah. The terms of the mineral lease are connected to the duration of the royalty agreement which lasts as long as minerals are produced and sold from the land and a minimum royalty is paid to the State.

The total mineral reserves in the Great Salt Lake are sufficient to provide raw material for GSL's facilities, including future planned expansions, and other existing producers on the lake for about 200 years. Future products from the minerals extracted from the lake are possible and planned. All unused minerals in the pond system or plant effluent are returned to the lake as provided in the Royalty Agreement.

106.3 - Estimated Acreage

Acreage listed here should match areas measured off the maps provided.

Areas of actual mining:	~~~ 47,400~~ ~47,215
Overburden/waste dumps:	
Ore and product stockpiles:	
Access/haul roads:	
Associated on-site processing facilities:	~ 500
Tailings disposal:	
Other - Please describe: Borrow Pits	~185
Total Acreage	~47,900

106.4 - Nature of Material Including Waste Rock/Overburden and Estimated Tonnage

Describe the typical annual amount of the ore and waste rock/overburden to be generated, in cubic yards. Where does the waste material originate? What is the nature of the overburden/wastes (general chemistry/mineralogy and description of geologic origin)? Will it be in the form of fines or coarse material? What are the typical particle size and size fractions of the waste rock?

Thickness of overburden:	N/A ft.
Thickness of mineral deposit:	N/A ft.
Estimated annual volume of overburden:	N/A cu. yds.
Estimated annual volume of tailings/reject materials:	N/A cu. yds.
Estimated annual volume of ore mined:	N/A . yds.

Overburden/waste description: There is no overburden

106.5 - Existing Soil Types, Location of Plant Growth Material

Specific information on existing soils to be disturbed by mining will be required. General soils information may not be sufficient.

Provide specific descriptions of the existing soil resources found in the area. Soil types should be identified along with depth and extent, especially those to be directly impacted by mining.

Soils - The plan shall include an Order 3 Soil Survey (or similar) and map. This information is needed to determine which soils are suitable for stockpiling for revegetation. This soil data may be available from the local Natural Resources Conservation Service office, or if on public lands, from the land management agency. The map needs to be of such scale that soil types can be accurately determined on the ground (see Attachment I).

(a) Each soil type to be disturbed needs to be field analyzed for the following:

Depth of soil material The mineral deposit does not have any over burden The mine is located in the lake bed.

The borrow pits contained minimal soil, the initial reclamation plan for the borrow pits was to "dress borrow areas to acceptable condition" In 1982 ~~state that~~ soil in the borrow areas was not detectable in amounts that could be recovered. In 1983 a DOGM memo indicated that transects made at the Little Mountain Borrow indicated a 30% cover, a 21% revegetation requirement. Soil analysis and locations maps (Appendix 9) are attached. No volume calculation available.

Volume (for stockpiling)	N/A cu. yds.
Texture (field determination	
pH (field determination)	
(cross reference with item 106.6)	

(b) Where there are problem soil areas (as determined from the field examination) laboratory analysis may be necessary. Soil samples to be sent

to the laboratory for analysis need to be about one quart in size, properly labeled, and in plastic bags. Each of the soil horizons on some sites may need to be sampled. Soil sample locations need to be shown on the soils map. Soil analysis for these samples should include: texture, pH, Ec (conductivity), CEC (Catoin Exchange Capacity), SAR, % Organic Matter, Total N, Available Phosphorus (as $P_2 0_5$), Potassium (as $K_2 0$), and acid/base potential.

106.6 - Plan for Protecting and Redepositing Existing Soils

Thickness of soil material to be salvaged and stockpiled: N/A inches
Area from which soil material can be salvaged: (show on map) N/A acres
Volume of soil to be stockpiled: N/A cu. yds.
(cross reference with item 106.5 (a))

Describe how topsoil or subsoil material will be removed, stockpiled and protected.

106.7 - Existing Vegetative Communities to Establish Revegetation Success

Vegetation - The Permittee / Operator is required to return the land to a useful condition and reestablish at least 70 percent of the premining vegetation ground cover.

Provide the Division with a description of the plant communities growing onsite and the percent vegetation cover for each plant community located on the site. Describe the methodology used to obtain these values.

The percent ground cover is determined by sampling the vegetation type(s) on the areas to be mined (see Attachment I for suggested sampling methods).

(a) Vegetation Survey - The following information needs to be completed based upon the vegetation survey:

Sampling method used _____
Number of plots or transects (10 minimum) _____

Ground Cover	Percent
Vegetation (perennial grass, forb and shrub cover)	
Litter	
Rock/rock fragments	
Bare ground	100%

Revegetation Requirement
(70 percent of above vegetation figure) _____%

Indicate the vegetation community(ies) found at the site.

List the predominant perennial species of vegetation growing in each vegetation community type.

(b) Photographs - The Permittee / Operator may submit photographs (prints) of the site to show existing vegetation conditions. These photographs should show the general appearance and condition of the area to be affected and may be utilized for comparison upon reclamation of the site. Photographs should be clearly marked as to the location, orientation and the date they were taken.

106.8 - Depth to Groundwater, Overburden Material & Geologic Setting

Describe the approximate depth to groundwater in the vicinity of the operation based on the completion of any monitoring or water wells in the area. Please show the location of these wells on the base map.

Depth to groundwater Unknown ft.

Provide a narrative description of the geology of the area and/or a geologic cross section.

106.9 - Location and Size of Ore and Waste Stockpiles, Tailings and Treatment Ponds, and Discharges

The process does not produce waste or ore stockpiles.
The present pond area at the site encompasses ~47,215 acres.

There is no overburden removed when constructing a pond

V. Rule R647-108 - Hole Plugging Requirements

Not applicable

VI. Rule R647-109 - Impact Statement

109.1 - Surface and Groundwater Systems

This operation does not result in any impact to surface or ground water.

109.2 - Wildlife Habitat and Endangered Species

This facility is a part of an existing salt water lake which is not conducive to habitation by waterfowl.

109.3 - Existing Soil and Plant Resources

The existing operation is located on the mud flats of the Great Salt Lake therefore does not have any impact as there is no soil impacted.
Borrow areas are located in extremely rocky areas where soils needed for reclamation are unavailable.

109.4 - Slope Stability, Erosion Control, Air Quality, Public Health & Safety

The only slope stability problems that may exist at the site will be in the permitted borrow area. By permit the highwalls will be left at a 45 degree or less slope angle.

VII. Rule R647-4-110 – Reclamation Plan

110.1 - Current Land Use and Postmining Land Use

Current or premining land use(s) [other than mining]: None

List future post-mine land-use(s) proposed: Return the area to natural lakebed

(Develop the reclamation plan to meet proposed post-mine land use.)

110.2 - Reclamation of Roads, Highwalls, Slopes, Leach Pads, Dumps, Etc.

The reclamation of the solar mining portion of the permit will require breaching of dikes surrounding the pond every mile to allow water to dissolve any naturally precipitated minerals ~~rinse and remove any salt~~ left after the operation ceases. All structures and equipment will be removed from State lands. The process plant is a part of an industrial park and will remain after cessation of operations. GSL will negotiate with the ~~State Fish and Game Commission~~ State Division of Wildlife Resources on the possibility of the leaving ponds in certain areas to create bird refuges. If this is not amenable with the State, GSL will breach the dikes at certain points to remove the salt deposits. All dikes and roads will remain in place, and wave action over time will wash-out and level the dikes.

Borrow pits high walls will be recontoured to a 45 degree angle or less and the pit floors completed so that the pits will not impound water. Revegetation will take place where sufficient soils exist. No plans for soil importation to revegetate the borrow pits are being considered.

110.3 - Surface Facilities to be Left

All equipment and structures located on State Lands will be removed. The plant site will be left intact for use in the existing industrial park. Allowing the plant to remain as a part of this park was approved by the Weber County Commission of March 29, 1986.

110.4 - Treatment, Location and Disposition of Deleterious Materials

No deleterious material is produced at this site. All fuels and associated fluids will be removed when the equipment is taken from the site. If any foundations exist after the removal of structures, they will be broken and buried on site, in accordance with applicable regulations. All trash associated with any demolition will be removed from the site.

110.5 - Revegetation Planting Program and Topsoil Redistribution

Only minimal revegetation will take place at the site.

a) Soil Material Replacement
There will be no soil replacement at this site.

b) Seed Bed Preparation
N/A

c) Seed Mixture - List the species to be seeded:

Provide a seed mix listing adaptable plant species and the rate of seeding that will be used at the site for reclamation. More than one seed mix may be needed, depending upon the areas to be reclaimed. Keep the proposed post-mining land use in mind when developing seed mixes.

Example

Species Name	Common Name	Seeding Rate (lbs Pure Live Seed/Acre)

Total lbs/acre _____

(The Division recommends seeding 12-15 lbs./acre of native and introduced adaptable species of grass, forb, and browse seed for drill seeding and 15-20 lbs./acre for broadcast or hydro seeding. The Division can provide assistance in developing reclamation seed mixes if requested).

d) Seeding Method
N/A

e) Fertilization
N/A

f) Other Revegetation Procedures
N/A

VIII. Rule R647-4-112 VARIANCE

Variances were granted in 1983 to the following M Rules.
M-10 (1) Land Use The plant site will remain as an industrial park.

M-10 (3) Impoundments Utah Wildlife Agreement (pond to remain)

M-10 (14) Soils No Importation—Sparse vegetation

Justification for these variances is contained in the attached permit documentation.

IX. Rule R647-4-113 - SURETY

A Reclamation surety must be provided to the Division prior to final approval of this application. In calculating this amount, include the following major tasks:

1) Clean-up and removal of structures.
2) Backfilling, grading and contouring.
3) Soil material redistribution and stabilization.
4) Revegetation (preparation, seeding, mulching).
5) Safety gates, berms, barriers, signs, etc.
6) Demolition, removal or burial of facilities/structures, regrading/ripping of facilities areas.
7) Regrading, ripping of waste dump tops and slopes.
8) Regrading/ripping stockpiles, pads and other compacted areas.
9) Ripping pit floors and access roads.
10) Drainage reconstruction.
11) Mulching, fertilizing and seeding the affected areas.
12) General site clean up and removal of trash and debris.
13) Removal/disposal of hazardous materials.
14) Equipment mobilization.
15) Supervision during reclamation.

To assist the Division in determining a reasonable surety amount, please attach a reclamation cost estimate which addresses each of the above steps. The areas and treatments included in the reclamation treatments map should correspond with items included in the reclamation cost estimate. The reclamation costs used by the Division must be third party costs.

X. PERMIT FEE [Mined Land Reclamation Act 40-8-7(i)]

The Utah Mined Land Reclamation Act of 1975 [40-8-7 (I)] provides the authority for the assessment of permitting fees. Commencing with the 1998 fiscal year (July 1 - June 30), **and revised July 1, 2002,** annual permit fees are assessed to new and existing notices of intention and annually thereafter until the project disturbances are successfully reclaimed by the Permittee / Operator and released by the Division.

Large mining permits require an initial submission fee and annual fee of $500.00 for surface disturbance of 50 or less acres, or a $1,000.00 fee for surface disturbance greater than 50 acres (see page six Section III, Rule R647-4-106.3 for estimated disturbance calculation). The appropriate fee MUST accompany this application or it cannot be processed by the Division.

PLEASE NOTE: If you are expanding from a small mining operation to a large mining operation, the appropriate large mine permit fee, less the annual $150.00 small mine fee (if already paid) MUST accompany this application.

XI. SIGNATURE REQUIREMENT

I hereby certify that the foregoing is true and correct. **(Note: This form must be signed by the owner or officer of the company/corporation who is authorized to bind the company/corporation).**

Signature of Permittee / Operator/Applicant:_____

Name (typed or print): _____

Title/Position (if applicable): _____

Date: _____

PLEASE NOTE:

Section 40-8-13(2) of the Mined Land Reclamation Act provides for maintenance of confidentiality concerning certain portions of this report. Please check to see that any information desired to be held confidential is so labeled and included on separate sheets or maps.

Only information relating to the location, size or nature of the deposit may be protected as confidential.

Confidential Information Enclosed: ( ) Yes (X) No

MAP COMPILATION

GREAT SALT LAKE MINERALS CORPORATION

LARGE MINE PERMIT M/057/002 CONSOLIDATION

Box Elder and Weber Counties, Utah

April, 2011

APPENDIX 1

MINERAL LEASES AND EASEMENTS

GREAT SALT LAKE MINERALS CORPORATION

LARGE MINE PERMIT M/057/02 CONSOLIDATION

Box Elder and Weber Counties, Utah

April, 2011

APPENDIX 2

LARGE MINE PERMITS

GREAT SALT LAKE MINERALS CORPORATION

LARGE MINE PERMIT M/057/02 CONSOLIDATION

Box Elder and Weber Counties, Utah

April, 2011

APPENDIX 3

LARGE MINE PERMIT AMENDMENT

AUGUST 29, 1991

GREAT SALT LAKE MINERALS CORPORATION

LARGE MINE PERMIT M/057/02 CONSOLIDATION

Box Elder and Weber Counties, Utah

April, 2011

APPENDIX 4

LARGE MINE PERMIT REVISION

GREAT SALT LAKE MINERALS CORPORATION

LARGE MINE PERMIT M/057/02 CONSOLIDATION

Box Elder and Weber Counties, Utah

April, 2011

APPENDIX 5

LARGE MINE PERMIT AMENDMENT

JULY 19, 2004

GREAT SALT LAKE MINERALS CORPORATION

LARGE MINE PERMIT M/057/02 CONSOLIDATION

Box Elder and Weber Counties, Utah

April, 2011

APPENDIX 6

LARGE MINE PERMIT REVISION

OCTOBER 8, 2004

GREAT SALT LAKE MINERALS CORPORATION

LARGE MINE PERMIT M/057/02 CONSOLIDATION

Box Elder and Weber Counties, Utah

April, 2011

APPENDIX 7

SOIL SURVEY DATA

GREAT SALT LAKE MINERALS CORPORATION

LARGE MINE PERMIT M/057/02 CONSOLIDATION

Box Elder and Weber Counties, Utah

April, 2011

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322

SOIL, PLANT and WATER
ANALYSIS LABORATORY
UMC 48

Great Salt Lake Minerals & Chemical Corporation
ATTN: Larry Sower
P.O. Box 1190
765 North 10500 West
Ogden, Utah 84402

*Ident.	hydrometer (%)				mmhos/cm	H_2O-Sol. meq/100g					% Organic		% Total	ppm $NaHCO_3$		
	Sand	Silt	Clay	Texture*	ECe	CEC	Ca	Mg	Na	SAR	Matter	SP*	Nitrogen	P	K	pH
LM A	65	25	10	SL	2.4	4.6	.07	.11	.21	4.9	.38	22	.01	4.0	325	8.1
B	58	30	12	SL	1.7	7.4	.07	.05	.20	4.9	.38	26	.02	4.8	337	8.0
C	48	40	12	L	2.8	7.6	.15	.10	.51	8.3	.14	31	.02	3.1	201	7.7
D	58	34	13	SL	3.2	12.1	.37	.27	.48	4.4	.14	36	.02	2.9	139	7.9
PROM A	38	2	22	L	.4	16.6	.08	.01	.03	.7	2.10	41	.10	5.1	176	7.9
B	52	48	14	SL	.6	15.1	.04	.03	.08	2.5	.34	29	.01	.9	107	8.2
C	96	2	2	S	.3	1.0	.02	.01	.03	1.4	.07	20	.01	.4	17	8.5
D	21	5	31	CL	.4	13.3	.06	.05	.08	1.4	.31	58	.01	1.1	152	8.2
E	66	56	13	SL	.8	7.1	.08	.04	.05	1.4	.55	24	.03	2.8	97	8.1
F	90	25	5	S	.6	3.6	.04	.02	.06	2.3	.36	22	.02	.5	27	8.4
G	16	11	28	SiCL	3.1	10.8	.10	.06	1.49	22.0	.38	55	.03	2.6	390	8.6
H	62	8	13	SL	2.6	6.7	.23	.14	.18	2.6	1.43	27	.04	9.6	171	7.9
I	82	11	7	LS	.3	3.5	.02	.01	.04	1.5	.19	29	.02	1.1	60	8.4
J	85	8	7	LS	.3	3.4	.04	.01	.02	.7	.38	22	.01	3.6	54	8.4

*LM=Little Mountain, PROM=Promontory
*SP=Saturation Percentage

USU Log #'s 83-782-795 / received on 4/19/83.

*Texture - SL = Sandy Loam
L = Loam
CL = Clay Loam
S = Sand
SiCL = Silty Clay Loam
LS = Loamy Sand

R E Lamborn

COMMENTS AND RECOMMENDATIONS:

pH is acceptable for all but PROM G. The high SAR confirms a probable sodium problem (poor infiltration rate, etc.).

Texture: The sands, loamy sands and some sandy loams will have poor water - holding capacity, and soluble N will leach out easily. Plant drought - resistant varieties.

ECe (soluble salts): Watch for possible salt problems in those testing higher than 1.5 mmhos/cm. Sampling depth and time since latest precipitation (and amount of it) affect test values too much to be more specific on this.

Organic Matter: All but PROM A and PROM H are very low. Anticipate erosion on slopes.

Nutrients

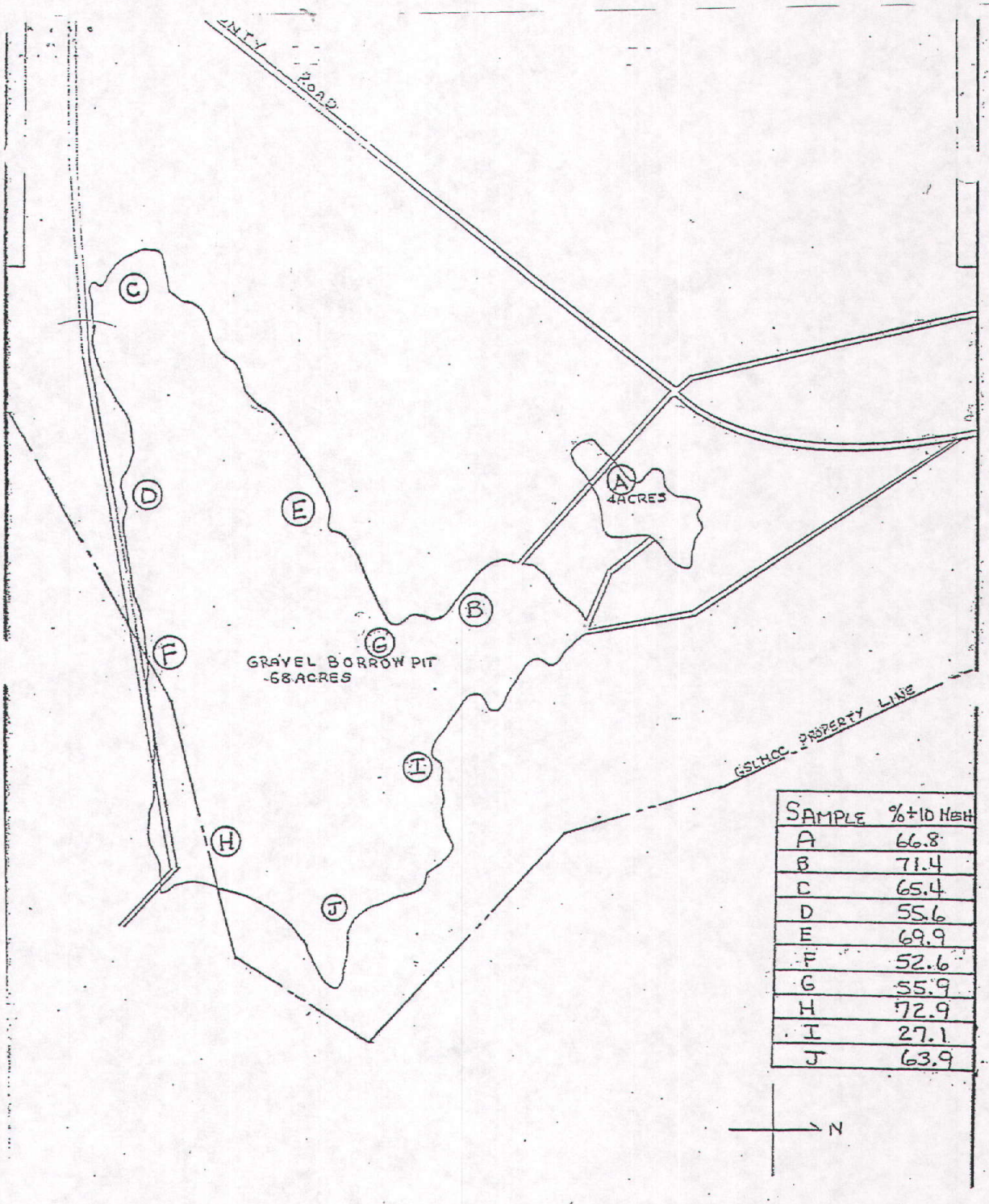
Nitrogen: Total N has no value in predicting N supply to plants. Assume there is no N in the soil. Apply enough to feed the crop (35-50 lbs N per acre without irrigation).

Phosphorus:

Soil Test P	Apply (lbs P_2O_5 / acre)	
9.6	0	
4.0-5.1	50	(These are minimum amounts; you may want to double these to get maximum benefit from application costs.)
2.6-3.6	60	
.4-1.1	75	

Potassium: Apply 100-200 lbs K_2O per acre to PROM C, PROM F, and possibly PROM I and PROM J.

R&L



SAMPLE	%+10 MESH
A	66.8
B	71.4
C	65.4
D	55.6
E	69.9
F	52.6
G	55.9
H	72.9
I	27.1
J	63.9

TITLE FIGURE II
PROMONTORY GRAVEL PIT
SOIL SAMPLE LOCATIONS

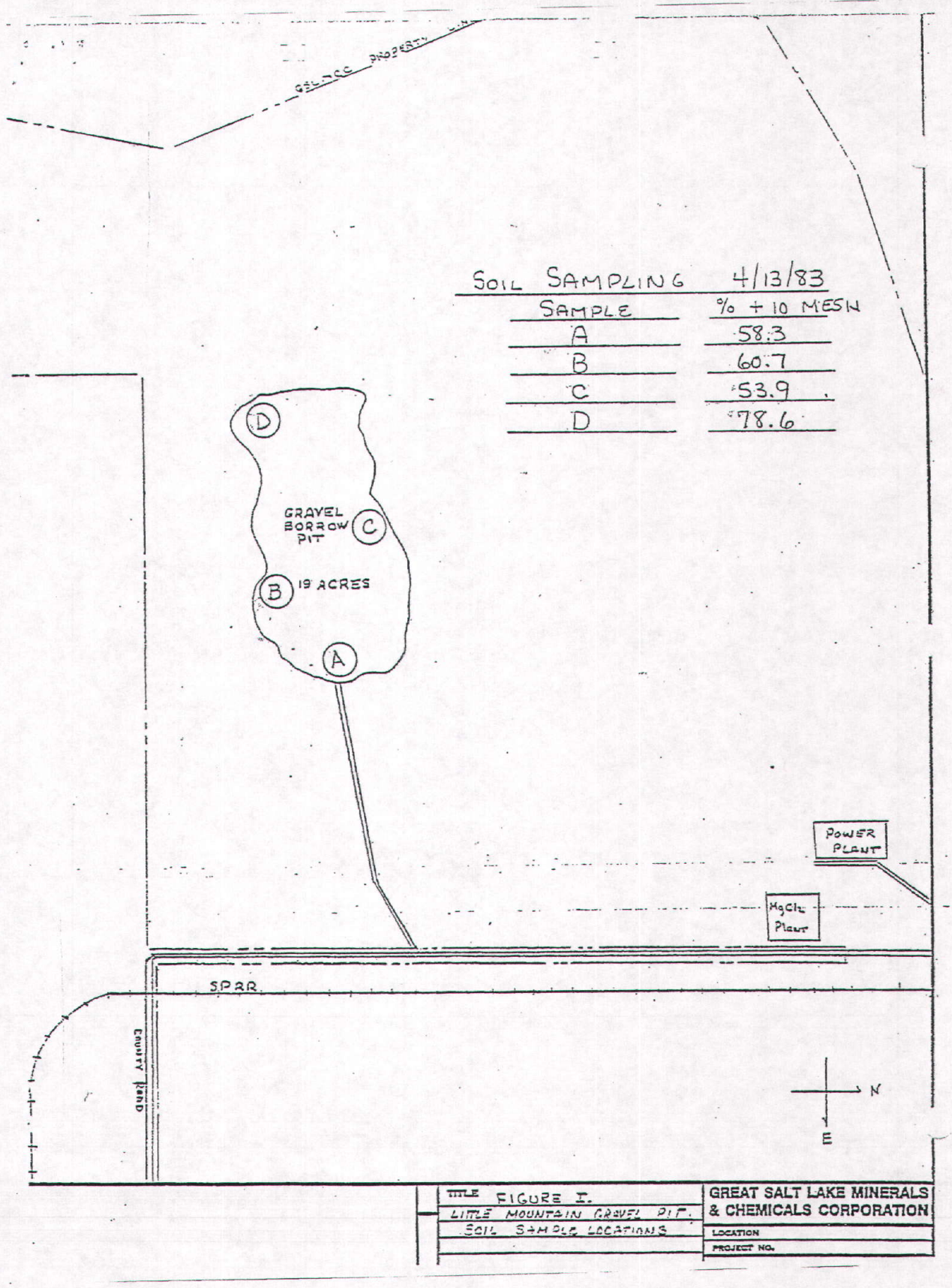
DRAWN LS | DATE 4/13/83 | SCALE 1"=400'

GREAT SALT LAKE MINERALS & CHEMICALS CORPORATION

LOCATION

PROJECT NO.

DWG. NO.



Soil Sampling 4/13/83

Sample	% + 10 Mesh
A	58.3
B	60.7
C	53.9
D	78.6

TITLE FIGURE I. LITTLE MOUNTAIN GRAVEL PIT. SOIL SAMPLE LOCATIONS	GREAT SALT LAKE MINERALS & CHEMICALS CORPORATION
	LOCATION
	PROJECT NO.